

REMARKS

In the Office Action dated May 16, 2007, claims 5-9 and 26 were examined with the result that all claims were rejected. Claims 10-24 were withdrawn from further consideration as being directed toward a non-elected invention. In response, applicant has canceled claim 26, and rewritten claims 5 and 9. In view of the above amendments and following remarks, reconsideration of this application is requested.

In the Office Action, the Examiner objected to claim 26 as being in improper dependent form for failing to further limit the subject matter of the claim from which it depends. In response, applicant has canceled claim 26. Applicant believes the Examiner should now withdraw this objection.

In addition, the Examiner objected to claim 5 because of a typographical error in the chemical symbol for aluminum. In response, applicant has corrected the chemical abbreviation for aluminum in both lines 3 and 6 of claim 5. Accordingly, applicant believes the Examiner should now withdraw this objection.

In the Office Action, claim 9 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner objected to the recitation of a "preferred" range as well as a broad range in claim 9. Accordingly, applicant has canceled the phrase "and more preferably above 700°C" from claim 9. In view of this amendment, applicant believes claim 9 is now definite, and requests the Examiner withdraw the §112 indefiniteness rejection thereof.

In the Office Action, the Examiner rejected claims 5-9 and 26 on the grounds of obviousness-type double patenting as being unpatentable over claims 32-35 of U.S. Patent 6,264,719. In addition, claims 5-9 and 26 were rejected on the grounds of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent 6,692,839. In response, applicant states it will file an appropriate Terminal Disclaimer to obviate these two double patenting rejections upon the indication of allowable subject matter by the Examiner.

In the Office Action, claims 5-9 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Zhang et al U.S. 6,264,719 or as being unpatentable over Furuta et al U.S. 6,551,371. In addition, the Examiner rejected claims 5-7, 9 and 26 under 35 U.S.C. §103(a) as being unpatentable over Larsen U.S. 5,685,924. In response, applicant has the following comments.

First, the Examiner should note that applicant has canceled claim 26 and amended claim 1 to specify the aluminum content of the base matrix. Claim 1 now specifies that the base matrix includes between about 15 at.% and about 30 at.% aluminum. Support for this amendment can be found on page 9, lines 15-18 of the specification as filed.

It is the applicant's view that the composite material disclosed by Furuta et al and that currently claimed and disclosed in the present patent application are fundamentally different. This is now clearly reflected in claim 1 which specifies the aluminum content of the base matrix. In this regard, Applicant refers the Examiner to column 5, line 2 as well as column 5, lines 23-44 of Furuta et al which Applicant believes teaches away from the use of aluminum content above 7 at.%. In the cited passages, Furuta et al restricts the amount of aluminum to 3.0-7.0% by weight. The reason for this is specified in column 5, lines 33-40. It is of particular note that it is specifically stated in Furuta et al that

" . . . when the content of the aluminum exceeds 7.0% by weight,
Ti₃Al precipitates so that the titanium based composite material
becomes brittle."

In contrast, it is important for the Examiner to note that the aluminum content when given by % weight in the currently claimed composition, is 9-20% by weight (the equivalent of 15-30 at.%). Thus, it is clear that Furuta et al does not teach the composite material as disclosed or claimed in the present application, but rather teaches away from such a composite.

The same is true of Larsen '924. Larsen teaches an alloy having from 29% to 35% aluminum. See for example Col. 2, lines 45-51 of Larsen. Again, clearly outside and much higher than the range claimed by applicant in claim 5.

Zhang et al '719 does not appear to disclose the amount of aluminum in the metal matrix. At Col. 4, lines 5-54 it is stated that the weight ratio of titanium oxide to aluminum is

Application No. 10/776,405
Amendment Dated November 16, 2007
Reply to Office Action of May 16, 2007

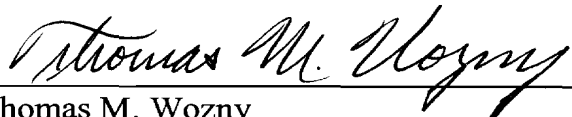
in the range of about 1.8:1 to about 2.3:1, but this is the weight ratio of the starting materials, i.e. the initial mixture of reactants. There appears to be nothing taught in Zhang et al '719 regarding the amount of aluminum in the final titanium based matrix.

As a result, Applicant believes claims 5-9 are now allowable.

An effort has been made to place this application into condition for allowance and such action has been earnestly requested.

Respectfully submitted,

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